



US009924716B2

(12) **United States Patent**
Barton et al.

(10) **Patent No.:** US 9,924,716 B2
(45) **Date of Patent:** Mar. 27, 2018

(54) **MOLECULES HAVING PESTICIDAL UTILITY, AND INTERMEDIATES, COMPOSITIONS, AND PROCESSES, RELATED THERETO**

(71) Applicant: **Dow AgroSciences LLC**, Indianapolis, IN (US)

(72) Inventors: **Thomas Barton**, Indianapolis, IN (US); **Xin Gao**, Carmel, IN (US); **Jim Hunter**, Indianapolis, IN (US); **Paul R. LePlae, Jr.**, Brownsburg, IN (US); **William C. Lo**, Fishers, IN (US); **Joshodeep Boruwa**, Noida (IN); **Raghuram Tangirala**, Bengaluru (IN); **Gerald B. Watson**, Zionsville, IN (US); **John Herbert**, Fishers, IN (US)

(73) Assignee: **Dow AgroSciences LLC**, Indianapolis, IN (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **15/408,682**

(22) Filed: **Jan. 18, 2017**

(65) **Prior Publication Data**

US 2017/0208804 A1 Jul. 27, 2017

Related U.S. Application Data

(60) Provisional application No. 62/286,673, filed on Jan. 25, 2016, provisional application No. 62/286,655, filed on Jan. 25, 2016.

(51) **Int. Cl.**

A01N 37/18 (2006.01)
C07C 311/09 (2006.01)
A01N 41/06 (2006.01)
C07C 255/46 (2006.01)
A01N 47/32 (2006.01)
C07C 255/19 (2006.01)
A01N 37/34 (2006.01)
C07C 233/66 (2006.01)
C07C 275/26 (2006.01)
A01N 37/26 (2006.01)
A01N 53/00 (2006.01)

(52) **U.S. Cl.**

CPC *A01N 37/18* (2013.01); *A01N 37/26* (2013.01); *A01N 37/34* (2013.01); *A01N 41/06* (2013.01); *A01N 47/32* (2013.01); *A01N 53/00* (2013.01); *C07C 233/66* (2013.01); *C07C 255/19* (2013.01); *C07C 255/46* (2013.01); *C07C 275/26* (2013.01); *C07C 311/09* (2013.01); *C07C 2101/02* (2013.01); *C07C 2601/02* (2017.05)

(58) **Field of Classification Search**

None

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

7,375,232 B2	5/2008	Clark et al.
7,951,828 B1	5/2011	Mita et al.
2002/0068838 A1	6/2002	Demassey et al.
2008/0063678 A1	3/2008	von Deyn et al.
2012/0329649 A1 *	12/2012	Hunter C07C 255/57 504/100
2014/0171308 A1	6/2014	Lo et al.
2014/0171309 A1	6/2014	Lo et al.
2014/0171310 A1	6/2014	Lo et al.
2014/0171311 A1	6/2014	Lo et al.
2014/0171312 A1	6/2014	Lo et al.
2014/0171313 A1	6/2014	Lo et al.
2014/0171314 A1	6/2014	Lo et al.
2014/0171315 A1	6/2014	Lo et al.
2015/0353477 A1	12/2015	LePlae et al.

(Continued)

FOREIGN PATENT DOCUMENTS

WO	2010078300 A1	7/2010
WO	2014100163 A1	6/2014

(Continued)

OTHER PUBLICATIONS

Cornell Environmental Backgrounder: Pesticides and Food Safety (<http://psep.cce.cornell.edu/issues/foodsafety-issues.aspx>, cached Jun. 29, 2010).

(Continued)

Primary Examiner — Alicia L Otton

Assistant Examiner — Po-Chih Chen

(74) *Attorney, Agent, or Firm* — Carl D. Corvin

(57) **ABSTRACT**

This disclosure relates to the field of molecules having pesticidal utility against pests in Phyla Arthropoda, Mollusca, and Nematoda, processes to produce such molecules, intermediates used in such processes, compositions containing such molecules, and processes of using such molecules and compositions against such pests. These molecules and compositions may be used, for example, as acaricides, insecticides, miticides, molluscicides, and nematicides. This document discloses molecules having the following formula (“Formula One”).

